TARGET 2.2

RELEASE NOTES

13 December 1995

1.0 **Purpose**

The purpose of this document is to describe the new features, enhancements, and improvements based on the TARGET user community's recommendations and requirements. The new functions include the ability to print from TARGET; import/export slides (PowerPoint files), HTML Editor, Utilities Manager, and Scheduling Editor. The Operations Planning Tool (OPT) and Course of Action Selection Tool (COAST) have been improved and are more fully integrated into TARGET. The handling of missions, tasks, and forces in TARGET have been improved. The full TARGET install includes the new MATT 3.5, Corbus 3.1, and the JTF Tasker.

2.0 **New Features**

2.1 Print

The Print interface will send a selected document on the Planners Workbench to the default lp printer. A single media document, such as applix word or graphic documents, gifs, tiffs, rasters, or plain text can be printed with each selection of Print. The Print menu item is located under the File menu in the Planners Workbench window. All documents and graphics are printed in black and white.

The print interface relies on Applix macros to convert and print the file selected. The macros must be found in the axhome/macros subdirectory of the user's home directory. These files can be copied from the directory

/usr/target/newuser/sampleuser/axhome/macros to the user's axhome/macros directory.

An enhancement to the interface for the customization of print parameters is scheduled to be incorporated in a future release of TARGET. The interface will contain more user selectable parameters such as the selection of printers, color, number of copies, etc. Applix 4.2 will contain a macro to convert files in PowerPoint format into Applix graphic format. The future release of TARGET will also be upgraded to interact with Applix 4.2.

2.2 HTML Maker

The ability to create HTML documents is available through Applix and the HTML Maker.

The HTML Maker Applix macro converts Applix documents to html documents. These macros must be located in the user's home directory under axhome/macros (i.e.

~user/axhome/macros). These files can be copied from the directory /usr/target/newuser/sampleuser/axhome/macros to the user's axhome/macros directory.

To convert a document to html, select the Document Processor menu item under the Tools menu in the TARGET Main window. The Applixware main window will be displayed. Select the Document icon (first icon on the left) to display the Applix Word window. In the File menu, select the Open menu item to get a document into the Applix Word window. After the document is displayed, select the large bold asterisk (*) and select the Run Macro menu item. Enter the name "html_maker" in the text field and select the OK button. The HTML Maker window is displayed. You *must* enter a document title before trying to convert the document as this is the title that will be displayed across the top of your browser. Select the OK button after you have made any alterations to the color, selection of background image, etc. A Files Created window is displayed when the conversion is finished and lists all of the .gif graphics that have been created. Select the OK button to remove window. Start Mosaic or Netscape and open the new html document. Mosaic may not be able to display the selected background color.

To create an HTML document, select the Document Processor menu item under the Tools menu in the TARGET Main window. The Applixware main window will be displayed. Select the Document icon (first icon on the left) to display the Applix Word window. HTML styles are available to use as a guide in creating the HTML document. A style is a predefined format that is assigned to selected text. The styles are listed in the Styles button on the header menu. The document must be saved before trying to run the macro. Select the large bold asterisk (*) and select the Run Macro menu item. Enter the name "html_maker" in the text field and select the OK button. The HTML Maker window is displayed. You *must* enter a document title before trying to convert the document. Select the OK button after you have made any alterations to the color, selection of background image, etc. A Files Created window is displayed when the conversion is finished. Select the OK button to remove the window. Start Mosaic or Netscape and open the new html document.

Applix contains an Export to HTML menu item in the File menu; Do *not* use this if you have graphics in the document. The menu item produces a document that is HTML 1.0 compliant and doesn't convert any of the graphics in the document.

2.3 Import Slides

The importing of PowerPoint slides into a plan is available in the Planners Workbench. TARGET will convert the slides from postscript format to raster format, allow the user to view the raster files, and import the raster files into the Planners Workbench.

The Import Slides interface is located under the File menu.

2.3.1 Converting Slides to Raster Format

The PowerPoint slides must be transferred to the UNIX file system as *.ps files into the /usr/target/targetdata/raw_briefs directory. Each time the Import Slides interface is executed, the *.ps files in raw_briefs are examined and, if possible, converted to raster format. The converted files are then moved to /usr/target/targetdata/converted_briefs directory. The *.ras files in the raw_briefs directory are also moved to converted_briefs. Copies of the files in the raw_briefs directory should be maintained elsewhere as all files in the raw_briefs directory are destroyed. Any files which have a .ps extension, but which are not in postscript format are "converted" and placed in the converted_briefs directory. However, they will have a size of 0 (zero) blocks and will not be viewable.

The user *must* have read/write access to /usr/target/targetdata and all its sub-directories.

The Import Slides window has three major components: Clipboard, Directory/File Lists, and Action Panel.

The Clipboard allows for the cutting, pasting, copying, and deleting of the converted PowerPoint slides on the UNIX file system (they have not been imported into the plan). The user can create one level of sub-directories under the converted_briefs directory (i.e. converted_briefs/tempdir/seconddir/* is not allowed) in order to categorize the slides.

The Slides directory structure is displayed in the Directories List. The Directories List is the converted_briefs (/usr/target/targetdata/converted_briefs), and its subdirectories on the UNIX file system. The selected directory is highlighted (will always be at least one directory selected). The contents (files) of the selected directory are displayed in the Files list. A selected file is indicated by being highlighted. One or zero files may be selected.

The Action Panel contains the View, OK, Cancel, and Help buttons. In order to view the selected item (an entire directory or a single file) using XV, click the View button after the item is selected. In order to move a _copy_ of the selected item into the Plan, click on OK after the item is selected. Select the Cancel button to exit the Import Slides window. Select the Help button to examine the on-line help text. Slides are imported into the currently open folder within the Planners Workbench.

Note that some activities cannot be performed on the top level (converted_briefs) directory, rather these operations must be performed individually within this directory.

2.3.2 Copying Slides

The Copy button will copy the selected item (either a file or directory for multiple files) to and from the clipboard.

To copy a directory, select a directory name and the Copy button. The name of the selected item is displayed in the Clipboard. The Directory List and File List are desensitized, forcing the user to enter a new directory name in the Clipboard; after entering the new name, select the Copy button again. The new directory is listed and selected, the Clipboard is emptied, and the lists are resensitized.

To create a directory, select the file and the Copy button. The name of the selected item is displayed in the Clipboard. Enter the new directory name as part of the full or relative pathname in the Clipboard (i.e. in front of the file name as in newdir/filename). A warning dialog will pop up to allow you to confirm the creation of the directory. Select the OK button to create the directory. The directory and file are listed and the Clipboard is emptied.

To copy a file to another directory and keep the same name, select the file and the Copy button. The name of the selected item is displayed in the Clipboard. Select the destination directory and select the Copy button again. The file is listed in the destination directory, and the Clipboard emptied.

To copy the file to a different directory with either the same or a different name, select the file and the Copy button. The name of the selected item is displayed in the Clipboard. Enter the path in the Clipboard and select the Copy button again. The new file is listed and selected, and the Clipboard is emptied.

2.3.3 Deleting Slides

The delete button removes the selected item from the converted_briefs directory. The converted_briefs directory can not be deleted. However, the selection of the converted_briefs and the Delete button will cause the directories contents to be removed from the list and the UNIX file system.

To delete a directory, select the directory and the Delete button. A warning window is displayed to confirm the deletion. Select the OK button to continue with the deletion, or the Cancel button to not delete the directory. The directory and its contents are removed from the list and the UNIX file system.

To delete a file, select the file and the Delete button. The file is removed from the list and the UNIX file system.

2.3.4 Moving Slides

The Cut button removes the selected item from the list and stores it in the Clipboard. The user will then use the Paste button to finish the process. Selection of the Paste button before selecting the Cut button will display an error message stating a cut must be

done first. Selection of a directory and the Cut button will remove the directory and its contents to the Clipboard. Selecting the Paste button will restore the directory.

To move a file to another directory, select the file and the Cut button. The name of the selected item is displayed in the Clipboard. Select the destination directory and the Paste button. The file is listed in the list under the destination directory.

2.4 Export Slides

PowerPoint slides may be exported to the UNIX file system from the Planners Workbench. Slides are copied to /usr/target/targetdata/outgoing_briefs directory in raster format.

Individual slides can be exported by either selecting the Export Slides pulldown from the File menu or by dragging the slides icon to the Export drag icon.

To copy the slide to the UNIX file system without changing its name, select the slide icon by pressing the middle mouse button, move the icon to the Export drag icon, and release the middle mouse button. The Export drag icon is located at the bottom left of the Planners Workbench.

To change the name of the slide and copy it to the UNIX file system, select the slide icon, select the Export Slides pulldown, enter the new name in the text field, and select the OK button. The file name entered must not contain any slashes (/), and have the extension .ras. Selection of the Cancel button will remove the window and will not save the slide. The Export Slides pulldown is not available unless a slide icon has been selected on the Planners Workbench.

2.5 Schedule Editor

The Schedule Editor allows the user to schedule generic forces onto a timeline which corresponds to a task created in the OPT Directors Tool. Each generic force is associated on a one-to-one basis with each task created in OPT (i.e. one force per task). These generic forces (INFANTRY BRG, ART BTN, etc) can then be replaced with actual force data by applying it to the generic force. The timeline allows the user to visualize the use of available forces.

The Schedule Editor is available as the Schedule menu item under the Define menu in the Planners Workbench to create a force list schedule; or for an already created schedule, under the Review menu or by double clicking on the schedule icon. At least one task must have been created in OPT in order to create a Schedule.

2.5.1 Create

To create a schedule, select the Schedule menu item under the Define menu. The Time Model Editor is displayed to get the schedule's start day and hour, day and hour labels, and duration of the schedule. Select the Accept button to continue in creating a schedule, or the Help button to get information on the Time Model Editor window. The Schedule window and the Force List window will be displayed.

The Schedule window will contain a timeline for each task created in OPT on which the forces will be displayed. The Schedule window has three menus: File, Edit, and Options.

The File menu contains 5 menu items: New, Open, Close, Info, and Quit. The Info menu item displays a window that lists the creators of the Schedule Editor. The Quit menu item will close the Schedule Editor window and its sub-windows and will not create the schedule in the Planners Workbench. The New, Open, and Close menu items are not implemented at this time.

The Edit menu contains the menu item: Add Timeline. This option is not available because a timeline corresponds to a task and tasks are only created in the OPT Directors Tool. A timeline will appear in the Schedule window corresponding to a task created in OPT upon restarting the Schedule Editor.

The Options menu contains six menu items that will toggle between Show and Hide depending on what is currently displayed in the window: Hide Timeline Ticks, Hide Tick Labels, Hide Timelines Times, Hide Timeline Names, Hide Timeline Lines, Hide List.

The Hide Timeline Ticks menu item removes the day and hour labels and the tick marks from the timeline. The Hide Timeline Labels menu item removes the day and hour labels from the timeline. The Hide Timeline Times menu item removes the start day and hour labels from the timeline. The Hide Timeline Lines menu item removes the line where the force icons are placed. The Hide List menu item closes the Force List window.

The Force List window lists the available forces that are to be assigned to a timeline in the Schedule window. The Force List window has a Edit_Force_List menu which contains 3 menu items: Add Force, Remove Force, and Quit. None of these items are currently implemented. The selection of a generic force (single left button click) from the Force List window will display the Time Editor window.

The Time Editor window has a File menu which contains two menu items: New and Quit. The New menu item is available after the assigning of the force to a timeline. Selecting the New menu item will create a new force of the same type and display a new

Drag and Drop Me button for scheduling to the timeline. The Quit menu item has not been implemented at this time.

A Time Editor window displays the selected force and is used to change the force's start and duration times, and change the force's icon on the timeline. The user may have more than one Time Editor windows displayed as each window is used to "control" its own force's icon.

The force is assigned to a timeline by selecting the Drag and Drop Me button in the Time Editor, pressing the middle mouse button, moving the mouse to the Schedule window, and releasing the mouse button on the timeline (called "dragging"). (Throughout TARGET, the middle mouse button is used to perform the drag and drop functionality.) Releasing the mouse button over the drawn line of the timeline will display the force's icon at the location where the mouse button was released.

The width of the icon is based upon the duration set in the Time Editor. In changing the start and duration times, the user must press the Enter key after editing, otherwise the changes won't take affect. This is important when first assigning the force to the timeline since the duration's default setting is zero. The duration can be changed in the Schedule window by selecting the right part of the icon with the right mouse button and moving right to increase the duration. Selecting the left part of the icon with the right mouse button will increase the duration and change the start time. A force icon can be dragged and dropped along the same timeline or to another timeline.

The Cancel Modifications button is used to close the Time Editor window. This closure doesn't remove its icon from the timeline. The Time Editor window for a particular force can be redisplayed by selecting the force's icon on the timeline with the left mouse button.

Removing a force from a timeline is done by holding the left mouse button down and clicking the middle button then releasing the left mouse button. The force's icon and Time Editor window (if displayed) will disappear.

The Force Library Editor can be displayed by holding the Control key down and clicking with the right mouse button within one of the scheduled icons on the timeline. Once a force is selected in the Force Library Editor and the Apply button is selected, the force will be displayed in the selected icon (replacing the generic force) on the timeline. Refer to the TARGET User's Manual for more instructions on using the Force Library Editor.

Selection of the Save Modifications button in the Schedule window is used to save the schedule in the Planners Workbench. The new schedule will be located in whatever folder you had opened upon selection of the menu item. Selection of the Cancel Modifications button will close the Schedule window and its sub-windows and will not save the schedule.

2.5.2 View or Edit

The schedule can be viewed by selecting the Schedule menu item under the Review menu or by double clicking on the schedule's icon in the Planners Workbench.

The viewing or editing instructions are the same as creating a schedule, see section 2.5.1 of this document.

Selection of the Save Modifications button in the Schedule window is used to save the changes to the schedule in the Planners Workbench. Selection of the Cancel Modifications button will close the Schedule window and its sub-windows and will not save the changes.

2.5.3 Delete

The schedule can be deleted by selecting the schedule icon and selecting the Delete menu item under the File menu, or by selecting the schedule icon by pressing down the middle button and dragging the mouse to the DELETE icon on the Planners Workbench.

2.6 Utilities Manager

The Utilities Manager is an interface to various UNIX commands the user may need to run TARGET. The Utilities Manager menu item is located under the Tools menu in the TARGET Main Window. There are 5 menus available in the Utilities Manager: Network, Floppy Disk, CDROM, File Operations. and User UNIX Support.

The Utilities Manager utilizes the volume management daemon 'vold' to manage CD-ROM and floppy. To ensure proper operation, check to see if volume management daemon is running by typing the following in an xterm window.

ps -ef | grep vold

The daemon should be started up at boot time in /etc/rc2.d/S92volmgt. If this file does not exist, check with your System Administrator to create the file. The daemon is started by entering the following command in an xterm window as the root user.

/usr/sbin/vold 1>/dev/console 2>&1 &

2.6.1 Network menu

The Network menu contains four menu items: Ping Host, Telnet, Rlogin, and Test The Network,

- 1. The Ping Host menu item sends a ping to the selected host. Select a host from the list in the dialog box by double-clicking on the host name or type IP address in dialog box and execute with a return (enter).
- 2. The Telnet menu item opens a telnet connection to the selected host. The host is chosen by selecting the Ping Host menu item.
- 3. The Rlogin menu item performs a remote login to the selected host. The host is chosen by selecting the Ping Host menu item.
- 4. The Test The Network menu item performs a traceroute to the selected host. Output will appear in the "Target Helper" window. The host is chosen by selecting the Ping Host menu item.

2.6.2 Floppy Disk menu

The Floppy Disk menu contains six menu items: Floppy Disk Status, Floppy Disk Directory, Mount DOS Formatted Floppy Disk, DOS Format Floppy Disk, Eject Floppy Disk, and Copy File To or From Floppy,

- 1. The Floppy Disk Status menu item checks for a mounted floppy device on the UNIX workstation.
- 2. The Floppy Disk Directory menu item provides a list of files found on the floppy disk.
- 3. The Mount DOS Formatted Floppy Disk menu item mounts the disk in the floppy drive to /pcfs on a SunOS operating system or to /dev/floppy on a Solaris operating system.
- 4. The DOS Format Floppy Disk menu item performs a DOS format on floppy disk in floppy device.
- 5. The Eject Floppy Disk menu item ejects floppy disk from floppy device.
- 6. The Copy File To or From Floppy pulldown menu item contains two items: Copies a File to Floppy Disk, and Copy File From Floppy Disk.
 - a. The Copies a File to Floppy Disk item copies a file from the UNIX file system to a floppy. Select a file from the dialog box to copy from the

- workstation's hard disk to the floppy disk. Double click on the file name or type the name of the file in the dialog box and execute with a return.
- b. The Copy File From Floppy Disk item copies a file from a floppy to the UNIX file system. Select a file from the dialog box to copy from the floppy to the workstation's hard disk. Select the directory in which you wish to write the file on the workstation's hard disk.

2.6.3 CDRom menu

The CDRom menu contains four menu items: CDRom Status, Mount CD Rom, Unmount CDRom, and Eject CDRom.

- 1. The CDRom Status menu item checks for a mounted CD Rom Device. Output to "Target Helper" Window.
- 2. The Mount CD Rom menu item mounts a CD-ROM device to /cdrom.
- 3. The Unmount CDRom menu item unmounts the cdrom device.
- 4. The Eject CDRom menu item ejects the CDRom from the cdrom device.

2.6.4 File Operations menu

The File Operations menu contains five menu items: Generic, Map File Import From CDRom, Tape Archive Operations (TAR), Inter Machine File Transfers (FTP), and File Compression.

- 1. The Generic (move/rename/find/copy) operations menu item executes the XDIR utility. XDIR displays a graphic interface that allows the user to perform a number of file operations without using a command line, the most meaningful of which are the three menus described below:
 - a. The Connect menu allows the user to telnet or ftp to a remote host using a graphic interface.
 - b. The Go To menu allows the user to use menus and icons to switch between directories without using a command line.
 - c. The Help menu allows the user to get extensive help for all functions and icons in XDIR.
- 2. The Map File Import From CDRom menu item processes map files from DMA ADGR CD-ROM's. It will process maps to /maps.

- 3. The Tape Archive Operations (TAR) pulldown menu item contains three items: Read TAR Tape Directory, Archive a File or Directory To Tape, and Recover a File or Directory From Tape.
 - a. The Read TAR Tape Directory item reads archive tape and provides a copy of its contents.
 - b. The Archive a File or Directory To Tape menu archives a file or directory of your choice to the tape device. Double-click on directory name or filename to be archived. Execute archive by selecting the Select Directory button.
 - c. The Recover a File or Directory From Tape item extracts files from the archive tape. Double click on directory name where you want file to be written. Execute extraction by selecting the Select Directory button.
- 4. The Inter Machine File Transfers (FTP) pulldown menu item executes the XFTP utility. XFTP displays a graphic interface that allows the user to perform FTP operations without using a command line. The most meaningful menus in the interface are: Connect, Dir, and Select.
 - a. The Connect item can connect to a remote host via file transfer protocol or to a remote host via anonymous file transfer protocol.
 - b. The Dir item will move up a directory, change to another directory, create a directory, and display a directory's full path name.
 - c. The Select item will select all entries from dialog box., deselect all entries from dialog box, allows you to search the directory for files using any of UNIX's wildcard characters. Enter the search string and the return (enter) to execute.
- 5. The File Compression pulldown menu item contains two items: Compress, and Uncompress.
 - a. The Compress item performs a compression on the selected file.
 - b. The Uncompress item performs an uncompress on the selected compressed.

2.6.5 User UNIX Support menu

The User UNIX Support menu contains three menu items: Check Local Disk Space, Check Status of Process, and Cleanup Objectivity Database.

- 1. The Check Local Disk Space menu item performs a UNIX df command. The output lists amount of space available on all mounted disk devices.
- 2. The Check Status of Process menu item performs a UNIX ps -auxw command on a SunOS operating system (a ps -ef command on a Solaris operating system). The output lists a copy of the system process table.
- 3. The Cleanup Objectivity Database menu item runs the Objectivity utility "oocleanup", which resets the TARGET database. *Do not use this menu item while TARGET is running*.

3.0 **Improvements**

3.1 Operations Planning Tool (OPT)

The Operations Planning Tool has been rewritten in C++, and is now more fully integrated with the TARGET database schema. Any changes made to plan objects from the Planners Workbench will automatically be reflected in what is displayed in OPT.

The ability to edit force objects is not currently available in this version of OPT. It will be available in the next release of TARGET.

The collection of information in OPT is highly dependent on following a sequence of steps. This is especially important in the generation of message documents. Sections of messages are automatically filled with data from previous entries (under earlier menu items). Omission or the skipping of any steps will result in an incomplete message document. Data entered in earlier steps can also be displayed later in windows to facilitate the user in filling out the current window. For example, the list of forces shown under Force Selection in COA Development will depend on the user having already visited the menu item to Assign Forces to CJTF under the Develop Warning Order task and entering the appropriate data.

A full installation of Applix is currently required on any system that will run TARGET and OPT. OPT generates Applix documents from text entered into OPT text panels, for the messages created such as, the Alert Order, Warning Order, Commander's Estimate, OpOrder, and OPCinc3Assessment. The user selects the Format Message button in each display to incorporate the formatted message text into the message being built. The user can also type in additional text. An Applix document is generated when the user leaves the message-building menu item currently selected. The Applix document contains whatever text was in the text window. The Applix document will then appear as a media object on the Planners Workbench within the Messages folder. It an be opened from the Planners Workbench as well as from OPT.

Because Applix is called to process message text, the user may experience a short delay while this takes place. An information panel is displayed to advise of the delay.

Any user running OPT must have a directory path in his home directory, called axhome/macros. In the subdirectory must be copied all of the applix macro files that are found in /usr/target/newuser/sampleuser/axhome/macros. These macros are used for both text conversion and printing.

3.2 Course Of Action Selection Tool (COAST)

The Course Of Action Selection Tool (COAST) Version 2.0 has been rewritten in C++, and is now more fully integrated with the TARGET database schema.

The user interface of COAST was rewritten from MetaCard to C++/Motif++. The top menubar has been reformatted to seven buttons which allows the user to more easily traverse through the tool without having to back out from "buried" levels.

COAST may be enlarged by depressing the Maximize window decoration in the top right corner of the window frame. Font changes propagate to all screens when they become visible.

3.2.1 List COAs

Select Mission Type toggle defaults to "War" on creation of new plan.

The mission name does not (yet) default to the current mission. Users should enter the appropriate mission name while in list COAs.

Users should enter at least two courses of action. The List Criteria button (in the main top buttonbar) will not become active until at least two COAs are selected.

Users should select a mission type to allow the criteria categories to appear on the next screen (List Criteria).

3.2.2 List Criteria

Users can select a Criteria Category and then a specific Criteria to post that selection to the Enter Criteria box, or, can add a criteria manually by selecting add.

3.2.3 Eval Criteria

Users click on the Importance Rating matrix to post ratings to the Importance column of the Criteria matrix. All criteria items must be rated before users can proceed to Eval COAs.

Order Criteria to activate Pairwise Refinement button (not necessary to proceed to Eval COAs).

3.2.4 Pairwise Selection

Pairwise selection is accessed by selecting Pairwise Refinement on the Eval Criteria screen. Press a toggle (minimum 3, maximum 6) to select the top number of items.

If the text item is cut-off by the right edge of the box, click on mouse button 1 to view the end of the string and mouse button 2 to return to the beginning. Select the OK button to get to the Pairwise Comparison screen.

3.2.5 Pairwise Comparison

Use scale widget to slide the indicators toward the criteria to be weighted. Select Evaluate to evaluate inconsistencies.

Select the OK button to return to the Eval Criteria screen and choose whether or not to commit ratings changes offered by Pairwise Comparison.

3.2.6 Eval COAs

Rate criteria by selecting from Degree Criteria Met matrix. Course of Action may be viewed by selecting View COAs button.

3.2.7 Compute

Results are posted (i.e. colored) in the compute matrix for criteria that were ranked as "F's."

The number associated with a particular rating color (red, yellow, blue) may be altered as follows:

- 1. Button 1 hold moves bar closest to cursor.
- 2. Button 2 hold moves both bars and maintains relative position.
- 3. Shift-Button 1 click moves bar closest to cursor by 1.

4. Shift-Button 2 click moves both bars by 1 maintaining relative position.

The more information screen can be accessed by mouse clicking button 1 on a particular cell within the compute matrix. This feature was moved from the Eval COAs screen to the Compute screen.

3.3 Missions, Tasks and Forces

Target V2.1 allowed the creation of Missions, Tasks, and Forces via the Define Pulldown on the Workbench. These objects could be created anywhere in the database.

These Define options have been removed from Target V2.2. Now, rather than having a multiplicity of Missions within a Target Plan, there is a single mission; the Mission is defined within the OPT Directors Tool. However, the Mission Statement and Situation (which appear in text fields on the Main Window) can still be modified within Target V2.2, just like within V2.1. Tasks are also created in OPT Directors Tool. Tasks created in OPT populate the Tasks Folder on the Workbench. The Task Description can be modified from within the Workbench, by clicking on the Task icon. The Tasks are identified as "Implied Task 1," "Essential Task 1," etc, correlating to their positions in the respective OPT task lists.

Forces are now created in the Schedule Editor. The Schedule Editor provides the user with a list of Generic Forces which can be associated on a one-to-one basis with tasks created in OPT (i.e. one force per task). These generic forces (INFANTRY BRG, ART BTN, etc) can then be replaced (again, through the Schedule Editor) with Force data by applying it to an actual unit. These applied Forces are also imported into the Target Plan. Refer to section 2.5 for more information on the Schedule Editor.

4.0 **Enhancements**

4.1 MATT

MATT Version 3.5 is the newest release and will be installed along with TARGET Version 2.2. This document doesn't contain the release notes for MATT. However, an overview of MATT Version 3.5 enhancements are listed below. Refer to the MATT Release Document for Version 3.5 for a more detailed description of the enhancements. The user manual documentation can also be accessed via Netscape. The html files can be opened from /usr/local/matt/Version_3.5/doc/install (for installation instructions) or /usr/local/matt/Version_3.5/doc/help. These files are also accessible from the MapViewer using the 'Help' button.

MATT Version 3.5 enhancements:

- * Scaleable icons Symbols and Unit Symbols may now be scaled. When zooming in and out, the icons will be resized according to the user's specification.
- * Print The user may print the screen to a file or to a printer in monochrome and/or color.
- * Error messages There are now better and more error messages that user is prompted when a user error or a system error is encountered. Many crashes associated with lack of error messages are now fixed. Incompatible maps will now display an error instead of crashing
- * Collaboration Collaboration between MATT and other projects such as the JTF Map Viewer.
- * Performance Many features are now faster, window sizing and placements and file permission issues are fixed
- * Graphics More graphics are allowed to be passed through the specialist. Examples: bitmaps, gifs, etc.

4.2 Corbus

Corbus is an implementation of the CORBA industry standard for distributed objectoriented computing. It is used by the TaskTool to communicate among TARGET and other applications at various sites on a wide-area network.